
Observations on the Luzon Water Redstart *Rhyacornis bicolor* in the Mount Pulog National Park, Philippines

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The Luzon Water Redstart *Rhyacornis bicolor* is endemic to the Philippines, and is only found along streams in the mountainous regions of the island of Luzon. There have been only a few records of this bird, and information about its distribution, habitat and biology is very limited. Observations of the species in the Mount Pulog National Park are reported. A total of nine birds was observed in several different locations. One male was mist-netted and released after measurements and a blood sample for DNA analysis had been taken. The Mount Pulog National Park still contains enough habitat to sustain a considerable number of birds and the park currently represents a stronghold of this species.

The International Council for Bird Preservation is currently carrying out a biodiversity project, part of which has involved collecting all available information on a large number of Philippine species. However, little has emerged concerning the Luzon Water Redstart. The species was first described by Ogilvie Grant (1894a), after the collection of one male by J. Whitehead in Benguet sub-province. Two other papers by Ogilvie Grant (1894b, 1895) and one by Whitehead (1899) give very little extra information. McGregor (1910) collected one immature male, at about 1,000 m in early July 1908, at Lutab, Benguet sub-province. The only other mention of the species in the literature is by Dickinson *et al.* (1991), who state that it is known south to Dalton Pass (specimen in Delaware Museum of Natural History) and east to the Sierra Madre Mountains in Quirino sub-province (sight record by R. S. Kennedy). An increase in ornithological activity in the 1980s has resulted in the discovery of a new locality near Banaue, Ifugao province, where it has been observed several times (ICBP Biodiversity Project), and there are unpublished observations from Isabella province in the Sierra Madre Mountains.

An expedition by the Danish Ornithological Society and ICBP stayed for more than a month in the Mount Pulog National Park during December 1990 and January 1991. Several Luzon Water Redstarts were observed.

LOCATION

The Mount Pulog National Park is situated in Benguet sub-province in the mountainous region of central Luzon (16°35'N 120°56'E). The park surrounds the highest mountain on Luzon, Mount Pulog (2,930 m) and

covers an area of 11,500 ha. The mountain range Cordillera Central runs through the park in a north-south direction. The park stretches down to an altitude of 1,200-1,800 m on each side of the mountain range. The park contains three main habitat types, the most prominent being the mossy forest, which is found from 1,500-2,600 m. This habitat contains mainly oaks, rhododendrons and ferns, indicating an acid soil. At lower elevations pine forest and tropical montane forest are also found. The sources of several streams and rivers are on each side of the mountain range and some of these have become quite powerful by the time they run out of the park. The streams contained clear, potable water, with no signs of suspended earth and mud. The earthquake in July 1990 destroyed roads leading to the park, making it difficult to transport cultivated crops. There was no cultivation at the time of this study but it was evident that previously cultivated areas had been treated with large amounts of fertilisers, herbicides and pesticides.

OBSERVATIONS AND DESCRIPTIONS

The redstart was found on both sides of the Cordillera Central. A total of nine birds was observed, with five on the western side and four on the eastern side. Observations were made in the subtropical zone at an altitudinal range of 1,200-1,900 m. The total observation time was more than two hours. The male is distinctly patterned in three colours. The head, back, throat and breast are intense dark slate-blue, while the rump, tail, belly and undertail coverts are bright chestnut and the wings are sooty-black. The female is much duller, chestnut and dark brownish-black with a slight metallic sheen.

By placing a mist-net across the river at Atapuan near the western border of the park one male was caught on 17 December 1990. The following biometrics were taken:— bill: 14 mm (measured from the feathers at the base of the culmen to the tip of the upper mandible); wing: 81 mm (measured from the bend of the flattened wing to the longest primary tip); tail: 60 mm (measured from the base of the longest feather to the distal end); tarsus 30 mm. Furthermore, a tiny blood-sample was taken, puncturing the wing-vein before the bird was released (for technique see Arctander 1988). The blood sample is now included in the DNA collections of the Zoological Museum of Copenhagen.

The redstart was only found along fast-flowing mountain streams, several metres wide and with an estimated waterflow of more than 15 m³ per minute. The banks were rocky, and the surrounding habitat was either tropical montane forest or pine forest. Birds were mainly seen on rocks in, or nearby, streams, although one bird was observed in a bush by a stream. The male and female were seen together on several occasions. The birds moved quickly around from boulder to boulder, feeding on insects either in the water or in the air. The birds never went completely into the water, but caught aquatic insects while standing on the edge of a stream. Occasionally, birds were seen flying up to 1 m in the air to catch insects, in the same manner as a flycatcher.

One pair of birds was followed along a stream and it was noted that from the upper to the lower turning point was an estimated distance of 500 m; probably the length of their territory.

When the birds became excited the tail was moved up and down in the same manner as that of a wagtail *Motacilla*.

Two distinct calls were heard. The one heard most frequently was a high-pitched 'iiiih-iiiih' sound. This call has also given the bird its local filipino name, *king-king*. The second call was only heard once, when the captured male was released and met the female. The call was relatively weak, of approximately one second duration and was composed of several (6-8) different high-pitched tones.

LOCAL INFORMATION

Interviews with several local people in different parts of the park suggested that the Luzon Water Redstart is well-known and found along all streams inside the park. The people said that the nest is made below rocks next to streams, and is often made from pine-needles. The nest contains from two to four eggs, usually three. The eggs are white with red spots. The breeding season is said to be June – August.

DISCUSSION AND CONCLUSIONS

The data obtained in the Mount Pulog National Park add to previously published information about the Luzon Water Redstart. The park is still a stronghold for the species, but its long term survival here is threatened. Clearings and establishment of new cultivated areas inside the mossy forest of the Mount Pulog National Park occur at an alarming rate. If these clearings continue, erosion will start to occur. This will influence water quality, and the increased use of fertilisers, herbicides and pesticides by the new farmers will lead to deterioration in the water quality and may diminish the food supply of the redstart.

Clear water arising from acid soil usually harbours an oligotrophic milieu, which favours a rich fauna of heterometabolous insect larvae (Ephemeroptera and Plecoptera). Such insect larvae may be an important constituent of the food supply of the redstart. Factors like these will inevitably have a negative effect on the population of the Luzon Water Redstart.

However, a strong effort from the "WWF debt for nature swap program" is now being enforced in an attempt to save the forest of the Mount Pulog National Park.

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